Houston – George Bush Intercontinental Airport Benchmarks

- The current capacity benchmark at Houston is 120-123 flights per hour in good weather.
- Current capacity falls to 112-113 flights (or fewer) per hour in adverse weather conditions, which may include poor visibility, unfavorable winds, or heavy precipitation.
- Scheduled operations at Houston are at or above capacity 4 hours per day (good and adverse weather respectively).
- In 2000, Houston was ranked ninth in the country in number of flights significantly delayed (more than 15 minutes), with nearly 3% of flights significantly delayed.
- A new runway, planned for completion in 2004, is expected to improve Houston's capacity benchmark by 35% (to 162-165 flights per hour) in good weather and by 37% (to 153-154 flights per hour) in adverse weather. This assumes that airspace, ground infrastructure, and environmental constraints allow full use of the runway.
- In addition, technology and procedural improvements, when combined with the new runway are expected to increase Houston's capacity benchmark by a total of 42% (to 170-173 flights per hour) in good weather over the next 10 years.
- The adverse weather capacity benchmark will increase by a total of 41% (to 158-159 flights per hour) compared to today.
- These capacity increases could be brought about as a result of:
  - ADS-B/CDTI (with LAAS), which provides a cockpit display of the location of other aircraft and will help the pilot maintain the desired separation more precisely.
  - FMS/RNAV routes, which allow a more consistent flow of aircraft to the runway.
- Capacity improvements at Houston are expected to keep pace with demand, which is expected to grow by 34% over the next decade. Delays are not expected to increase during this period.

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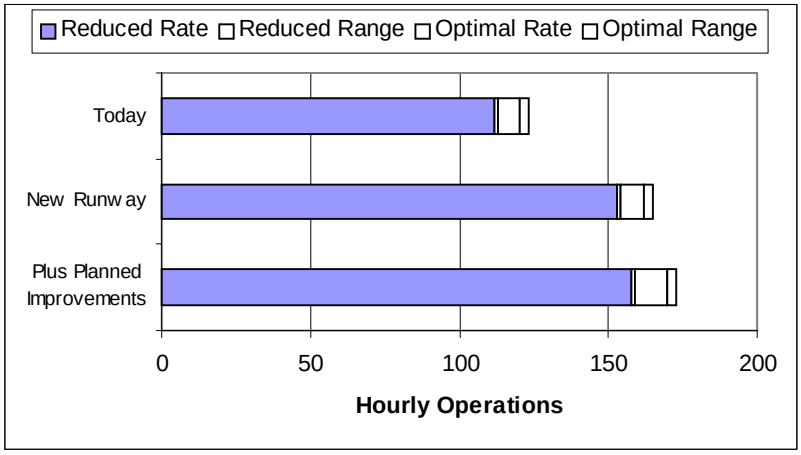
Airport Capacity Benchmarks – These values are for total operations achievable under specific conditions:

- **Optimum Rate** – Visual Approaches (VAPS), unlimited ceiling and visibility
- **Reduced Rate** – Most commonly used instrument configuration, below visual approach minim

Scenario	Optimum Rate	Reduced Rate
Today	**120-123**	**112-113**
New Runway	**162-165**	**153-154**
Plus planned improvements	**170-173**	**158-159**



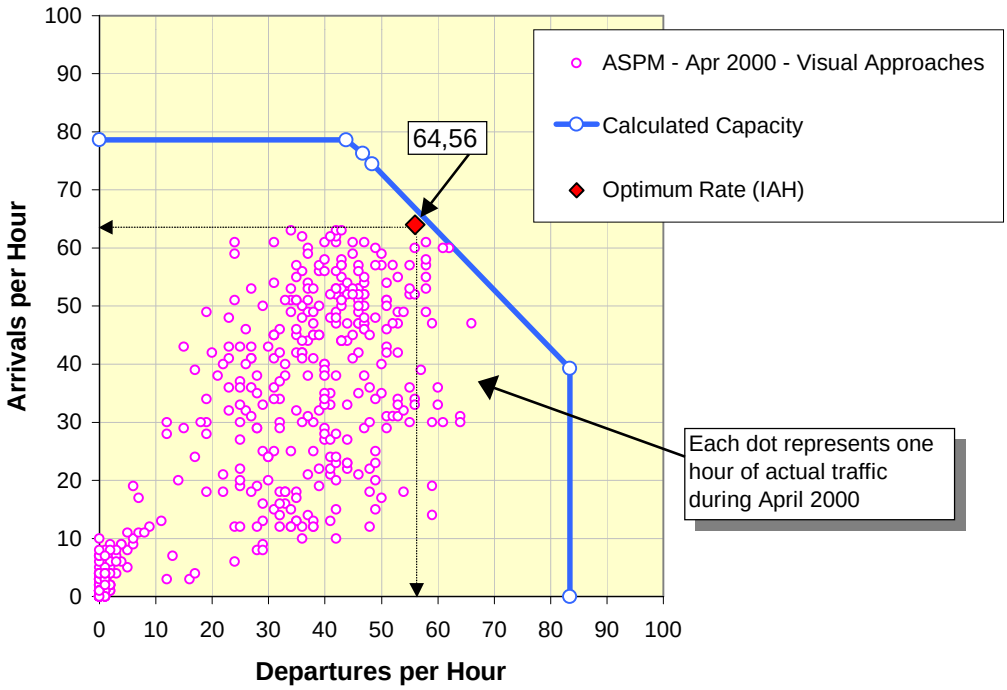
- The benchmarks describe an achievable level of performance for the given conditions, which can occasionally be exceeded. Lower rates can be expected under adverse conditions. Note: In some cases, facilities provided separate unbalanced maximum arrival and departure rates.
- Planned Improvements include:
  - ADS-B/CDTI (with LAAS) – provides a cockpit display of the location of other aircraft. This will help the pilot maintain the desired separation more precisely.
  - FMS/RNAV Routes – allows more consistent delivery of aircraft to the runway threshold.
- Benefits from Planned Improvements assume that all required infrastructure and regulatory approvals will be in place. This includes aircraft equipage, airspace design, environmental reviews, frequencies, training, etc. as needed.
- **Note:** These benchmarks do not consider any limitation on airport traffic flow that may be caused by non-runway constraints at the airport or elsewhere in the NAS. Such constraints may include:
  - Taxiway and gate congestion, runway crossings, slot controls, construction activity
  - Terminal airspace, especially limited departure headings
  - Traffic flow restrictions caused by en route miles-in-trail restrictions, weather or congestion problems at other airports

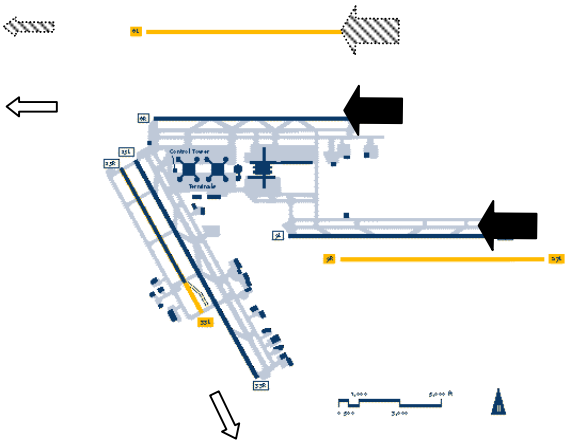
These values were calculated for the Capacity Benchmarking task and should not be used for other purposes, particularly if more detailed analyses have been performed for the individual programs.

The list of Planned Improvements and their expected effects on capacity does not imply FAA commitment to or approval of any item on the list.

Current Operations – Optimum Rate

- Visual approaches, visual separation – Arrivals 27/26, Departures 26/15L
  - Optimum rate of (64,56) was reported by the facility
- ASPM data is actual hourly traffic counts for the month of April 2000 for Visual Approach conditions. This data includes other runway configurations and off-peak periods.
- Solid line represents the calculated airport capacity during a busy hour, and the tradeoff between arrivals and departure rates
- The capacity model can only approximate the complex operations at IAH
- Demand at IAH may reach or exceed the calculated capacity during short periods (15 minutes) during busy hours





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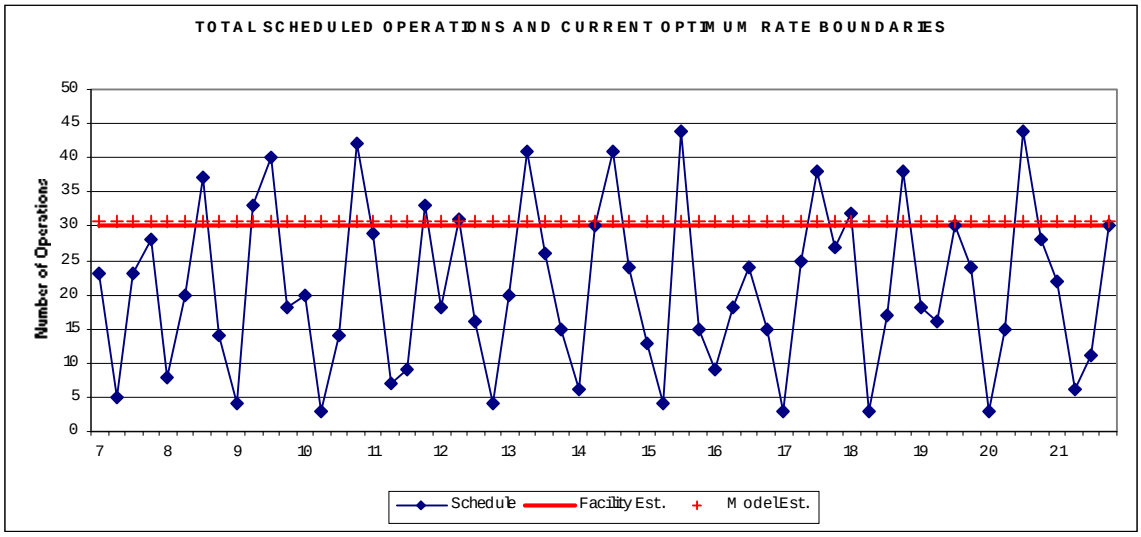
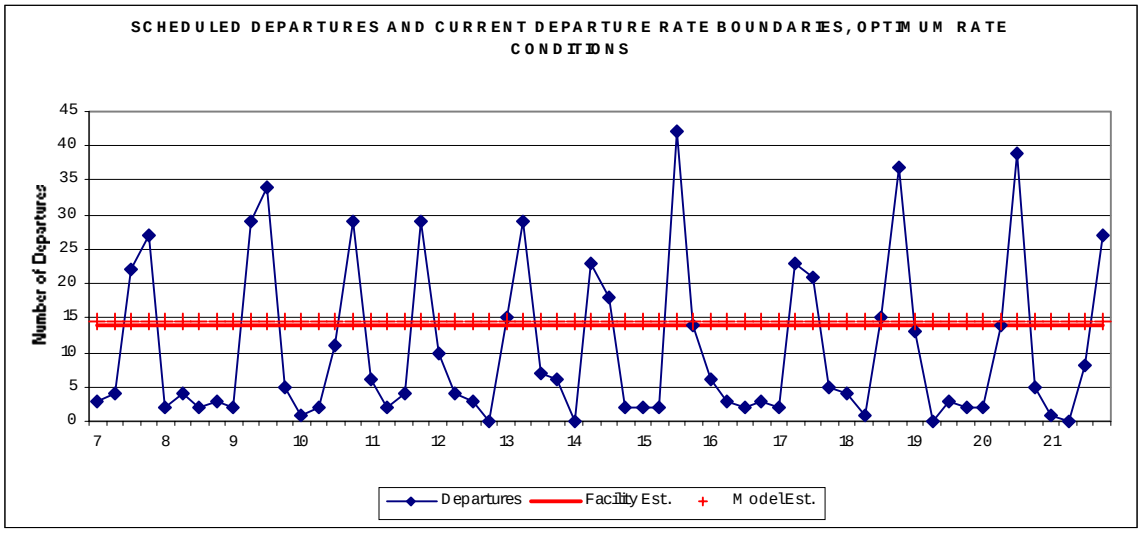
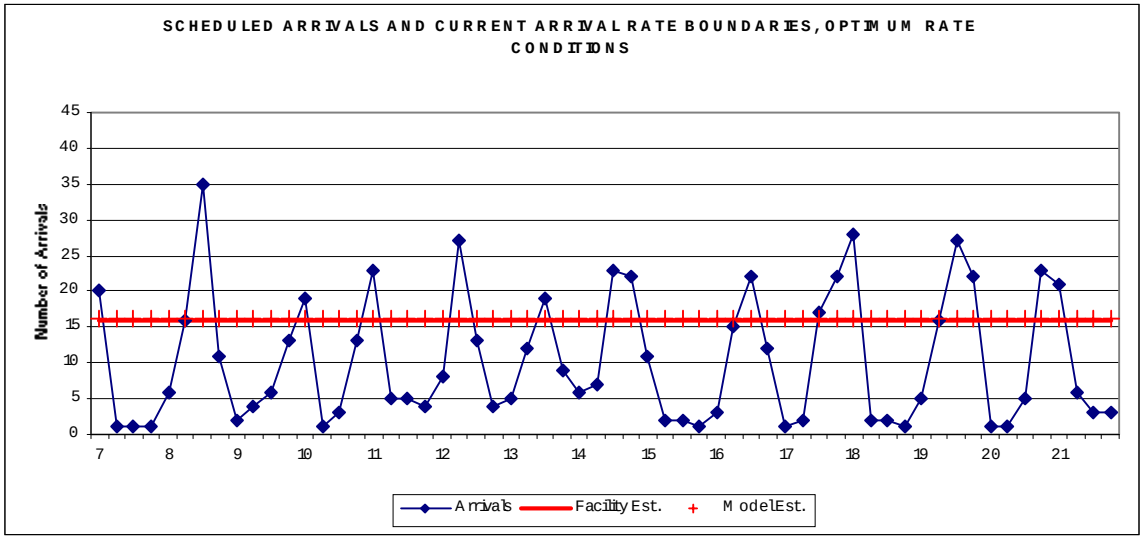
Scheduled Departures and Arrivals and Current Departure and Arrival Rate Boundaries (15-Minute Periods) Under Optimum Rate Conditions

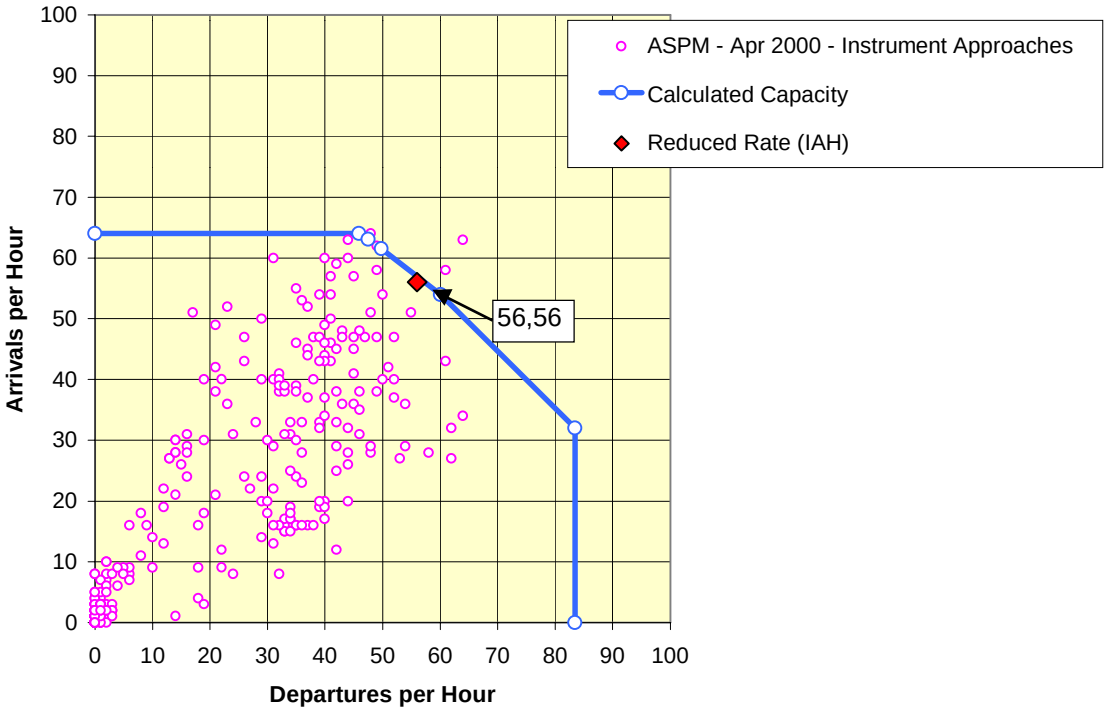


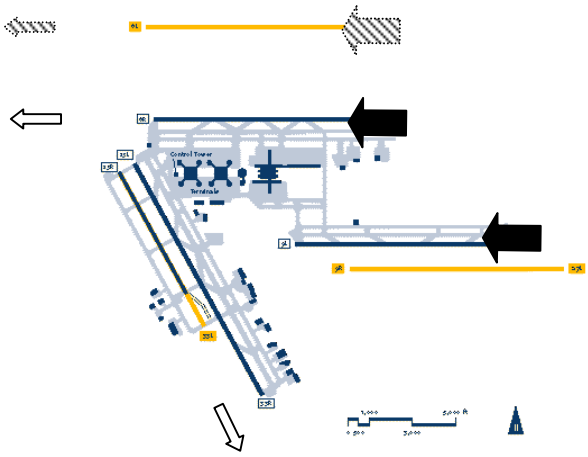




Current Operations – Reduced Rate

- Instrument approaches (below Visual Approach Minima) – Arrivals 26/27, Departures 15/26
- Hourly rate of (56,56) was reported by the facility
- ASPM data for “Instrument Approaches” can include other configurations or marginal VFR, with higher acceptance rates
- The capacity model can only approximate the complex operations at IAH
- Chart below represents observed traffic and expected rates in terms of operations per hour





IAH – Houston-George Bush Intercontinental Airport

Scheduled Departures and Arrivals and Current Departure and Arrival Rate Boundaries (15-Minute Periods) Under Reduced Rate Conditions